



Exploring the Iranian Female Sandwich Generation's Experiences of Multigenerational Caregiving Under the COVID-19 Pandemic: A Qualitative Study Using Situational Analysis

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Abstract

Background and aims: Although female family caregivers, especially those who belong to the sandwich generation, are at the forefront of the coronavirus disease (COVID-19) battle, little is known about their experiences. The purpose of this qualitative study was to explore the female sandwich generation's experiences of multigenerational caregiving under the COVID-19 pandemic in Shiraz located in the southwest of Iran.

Methods: Situational analysis (SA) was used as a methodological approach. It is a constructivist grounded theory (GT) developed by Adele Clark as one of the innovative extensions of the GT. In the current study, the multigenerational caregiving by the female sandwich generation under the COVID-19 pandemic is identified as "the situation" which is the key unit of analysis and the salient and diverse elements of this situation (e.g., the major human, non-human, discursive, cultural, political, and other elements) were laid out by the messy and ordered maps. In addition, each element on the messy map was analyzed in relation to all other elements, and the nature of the relations among them was examined by the relational map. These maps are derived from qualitative data including the ethnographic observations, discourse materials, and in-depth semi-structured interviews with 10 middle-aged female double caregivers of both dependent children and the elderly above 70 years old within the family. Three sampling methods were used across the full trajectory of the research, including purposeful, snowball, and theoretical sampling.

Results: The analysis of the multigenerational caregiving situation showed that this situation consists of 95 elements classified under 15 categories and 2 situational maps, along with 2 relational maps that have been drawn from the qualitative data analysis. Based on the organized situational map, this situation occurred as a result of the power of the main discourses, as well as the existing cultural, traditional, and religious elements, and continues after interconnecting to the global COVID-19 pandemic. The first relational map displayed caregivers' adopted information and communications technology (ICT) tool-based strategies such as remote caregiving, telehealth, online visiting, and online shopping, along with the voluntarily double quarantine in order to protect the elderly from COVID-19 infection. Finally, the second relational map depicted that emotional exhaustion is rampant among the caregivers influenced by the experiences that are related to the ICT tools and the voluntarily double quarantine.

Conclusion: Overall, some strategies are suggested concerning the necessity of maintaining the mental and physical health of double caregivers and reduction of the negative consequences of the pandemic in them. They include accessibility of ICT tool-based strategies to all, the alternative approaches to severe social isolation, creation of a balance between work-home life and the care demands of two generations, early assessment of the psychological status along with the extensive support by the government, and formal care services to them.

Keywords: Sandwich Generation, Informal Care, Situational Analysis, COVID-19

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Introduction

Since the announcement of the World Health Organization (WHO) recognizing the coronavirus disease 19 (COVID-19) as a pandemic on March 11, 2020,¹

many countries around the world have implemented special regulations and nationwide quarantines. After the identification of the first case of COVID-19 on February 2020,² Iran has faced a rapid spread of the disease and

has so far passed five great waves of the viral pandemic until August 2021. According to the WHO, although all age groups are inflicted by the COVID-19, the elderly due to age-related health conditions and a weakened immune system are among the vulnerable groups and more prone to present a severe condition, increasing the risk of mortality among them.³ Informal caregivers, who provide unpaid care for their needy family members, relatives, and friends,⁴ have played a pivotal role in caring for the elderly in the family and maintaining their health and well-being during the global COVID-19 pandemic.⁵⁻⁷

Some studies indicate that the family caregivers, who are at the forefront of the COVID-19 battle, have encountered with special issues during the pandemic due to the speed of the outbreak of the coronavirus, the vulnerability of at-risk groups, and the economic and social concerns raised by this global pandemic.^{6,8-12} For example, the need for a more strict observance of social distancing orders,⁶ disruption of daily life,^{6,8,11,13} fear of contracting the coronavirus and transmitting it to the elderly during providing care,^{6,11,12} increased care burden,^{8,14,15} economic problems,^{6,11,12} and the grief of losing loved ones⁹ are some of the issues experienced by informal caregivers in different countries during the pandemic. These factors have negatively affected their physical and mental health and placed them in a traumatic situation.

Caring for the elderly in Iran is further provided as informal care, and the family and close relatives of the elderly, mostly women, take the responsibility of caregiving,^{16,17} giving mainly a feminine appearance to family care in Iran.¹⁸ In addition, the family caregivers, who are in the age range of 40-65 years, responsible for caring for their dependent children and elderly parents or parent(s)-in-law at the same time, and pressured by their demands, face different experiences during their multigenerational caregiving in normal times having negative^{19,20,21} and positive^{21,22} aspects. This group was first recognized by Miller (1981) as the "sandwich generation".^{19,23-27} Thus, it seems that when the situation of multigenerational care and related issues due to the COVID-19 pandemic are met, they can provide a unique experience for the sandwich generation. However, the sandwich generation has so far received very little attention worldwide, especially the women of this generation as significant members of family caregivers, and much less is known about their experiences of double caregiving under the COVID-19 pandemic.

Given the above-mentioned explanations, this qualitative study aimed to use situational analysis (SA) to explore, for the first time since the beginning of the pandemic, the female sandwich generation's experiences of multigenerational caregiving under the COVID-19 pandemic in Shiraz located in south-central Iran.

Materials and Methods

Methodological Approach

The methodology of this study is called SA, which is a constructivist grounded theory (GT) developed by Adele

Clark and is an extension of the GT method with many shared roots and assumptions. However, SA maps and data sources are separate and different forms of analysis and data sources from GT.²⁸ According to Clarke, the situation of inquiry is the key unit of analysis,²⁸ and the main focus of SA is on relationality, which could be analyzed "by mapping and memoing the ecologies of relations among the varied and various elements in the situation."²⁸ She suggested new, highly innovative tools for visualizing and analyzing situations including situational (including messy and ordered maps) and relational maps derived from qualitative data. Accordingly, in the current study, the multigenerational caregiving by the female sandwich generation under the COVID-19 pandemic is identified as "the situation" which is the key unit of analysis, and the salient and diverse elements of this situation (e.g., the major human, non-human, discursive, cultural, political, and other elements) were laid out by the messy and ordered maps. Furthermore, each element on the messy map was analyzed in relation to all the other elements, and the nature of their interrelations was evaluated by the relational map.²⁸ Moreover, caregiving is a social action, and the relationship between the caregiver and the two generations under their caregiving is considered social relations. Thus, to perform a comprehensive analysis of this social action and the relations inside it, taking an approach such as Clarke's SA is of necessity, which has highly creative tools such as situational and relational maps for analyzing the forming elements of the situation and the relations between these elements from the heart of extracted qualitative data, finally leading to a deep, vast understanding of the intended caregiving situation and the relations inside it. Eventually, SA was chosen and applied based on the aforementioned explanations in order to reach the goals of this research and answer its questions.

Study Participants

According to the SA guideline, the data of the present research were generated and analyzed by interviewing informed individuals and analyzing field notes about the interviews, ethnographic observations, and discourse materials produced in the situation under study.²⁸ The obtained data from all the mentioned sources were analyzed in an integrated manner, and both messy and organized situational maps, along with relational maps were illustrated according to these analyses. To conduct the interviews, sandwich generation women in Shiraz were initially selected by purposeful sampling, which continued through snowball sampling and conducting semi-structured in-depth interviews until reaching theoretical data saturation. A total of 10 women belonging to the sandwich generation, who simultaneously provided care for two generations of the family during the COVID-19 pandemic, participated in this study. The inclusion criteria were living in Shiraz, being in the age range of 40-65 years, and having the responsibility for simultaneously caring for the child/children under the age of 18 years (or over 18

years of age but dependent children), along with taking care of their elderly parent(s) or/and parent(s)-in-law (i.e., vulnerable elderly above 70 years old who are dependent on others for at least one dimension of daily activities), and finally elapsing more than two years from the onset of caring for these two generations in the family. Generally, purposeful, snowball, and theoretical sampling methods were used in this study. Sampling the interviewees was started with purposeful sampling and then continued using snowball sampling, and finally, theoretical sampling was applied to collect the supplementary information with the broadest range of variation. In other words, conducting new interviews continued up to the point of theoretical saturation. After specifying the inclusion criteria for entering the study, interviewee number 1, who met all the intended criteria and was willing to participate in the research, was chosen through purposeful sampling. After the interview of author number 1 with participant number 1 and recording the whole session with the interviewee's consent, along with field observations and exact field note writing from all the details, the researcher left the session, and the findings were analyzed with the help of all the authors. Interviewees number two and three were also selected through purposeful sampling, and the interview sessions were similar to the first one, and data were analyzed right after the session. Then, researchers found access to other caregivers who met the criteria to enter the research through snowball sampling in the way that the researcher asked the interviewee during the session if they knew a multigenerational caregiver woman, and if they did, to introduce them to the researcher. In all cases, the interviewee introduced at least one other person. The introduced cases were chosen and interviewed in that way one after another if they met the criteria and were willing to participate in the research. Overall, the first five interviews were conducted in a more exploring manner and the focus was on finding as much various information as possible in order to reach the goal and answer the research questions. Given that these interviews provided the researchers with extensively vast information, half of the elements and initial categories were specified, and both versions of situational maps were initially illustrated, including messy and organized maps. Although displaying these maps was preliminary at this level, it was highly useful in determining and shedding light on the rest of the research journey and collecting the type of required new information to do the illustration again and complete them. According to Clarke et al, pursuing these directions is called theoretical sampling in the SA approach.²⁸ Therefore, researchers found the research pathway through theoretical sampling in the process of the completion of situational maps and interviewed people who had the best and richest information in order to complete the previous findings, add new elements, and develop situational maps in the best possible way. In fact, interviews number one to five paved the way for other interviews and drew the researchers' attention to points and questions which had less

information and needed more and better data collecting. Thus, researchers conducted the next interviews based on theoretical sampling in order to complete the situational maps, and this process continued up until reaching data saturation. This was because no newer information was added to the previous findings and all the findings were repetitive, proved the previous ones, and could answer all the research questions and all the new questions raised during the previous interviews. In addition, all situational and relational maps were completely illustrated after the tenth interview and the analysis. It is worth mentioning that according to the instructions by Clarke et al, data collection for this study was not simply dependent on in-depth interviews, and expansive ethnographic observation, analysis of field notes about the interviews, and deep analysis of discourse materials all led to the collection of rich and in-depth data which, in turn, could produce vast information about the caregiving situation, and finally, lead to the illustration of messy and organized situational and relational maps.²⁸ It is noteworthy that field note writing and exact field observation are needed for conducting an extensive and in-depth analysis of the intended caregiving situation. Therefore, most of the interviews were performed in person with the consent of the interviewee in their place of residence. In addition to the interview with the caregivers, this led to highly comprehensive and beneficial information of their place and facilities of living and the type of relationships between them and the two generations they cared for, tremendously helping the extraction of human and non-human elements present in the caregiving situation that can be observed in the organized situational map and under the category of human and non-human elements. In addition, data were coded after the end of face-to-face interview sessions and analyzed by the researchers. In most of the cases, multiple supplementary interviews were conducted by phone in order to obtain better and more in-depth information and more comprehensive answers to questions that needed further surveying. The timeframe for these supplementary interviews varied depending on the number of questions, multiple phone interviews were conducted in some cases.

Data Collection Procedure

In-depth semi-structured interviews with the informants were conducted from April to June 2021. After developing a semi-structured interview guide and consulting with the participants, a convenient place (preferably in their place of residence) and time for them were scheduled to conduct an in-person interview. The interviews were performed in Persian and translated into English (to report the results) by a bilingual translator fluent in both English and Persian. Additionally, the length of each interview was between 90 and 180 minutes, and all interviews were recorded after obtaining the participants' consent and transcribed verbatim after the interview session. Further, the researchers started to write memos containing tips from each interview after each interview and develop concepts

and questions for future interviews. MAXQDA software (version 2020) was utilized for data management and organization. If necessary, follow-up questions were asked through phone calls after analyzing the initial interviews. Further, participants' demographic data such as age, marital status, employment status, and education were collected at the beginning of each interview, along with their care recipients' age, gender, health condition, and years of being a sandwich caregiver, and the like. The interviews included open-ended questions focusing on sandwich generation women's experiences on multigenerational caregiving amid the COVID-19 pandemic. Examples of some of the most important interview questions are "What does it mean to be a double caregiver?", "How would you describe your experience of caring for the elder/elders and child/children during the COVID-19 pandemic?", and "Based on your experiences, what unprecedented challenges and opportunities has the pandemic provided to you as a double caregiver?". Furthermore, to deepen the interviews and encourage the respondents to further share their experiences, probing questions were used, including "Would you please explain more?" or "Please provide an example?", or "Would you please share more about this experience of yours?".

Data Analysis

The overall design of the project was based on the decisions made about the theoretical sampling which was in progress across the full trajectory of the work.²⁸ Data were analyzed according to the instructions of the SA approach, and the mapping was conducted using questioning and memoing.^{28,29} Using the transcribed materials, all the key elements associated with the situation under study were extracted from the data through open coding, and a messy map of this situation was drawn accordingly. As shown in the messy map, in this stage, 95 elements have been extracted from the overall qualitative data. After completing the messy map, it was reorganized to draw an ordered map, and the key elements were also organized into categories. Some of the headings of these categories were suggested by Clark (2017), corresponding to basic categories,²⁸ and the remaining ones were created based on the unique situation of the research. Thus, at this stage, all the 95 extracted elements from the data were classified under 15 categories. Based on the situational map, the titles of these basic categories are individual human elements/actors, collective human elements/actors, the discursive construction of individual and collective human actors, and non-human elements/actors. Other titles are discursive construction of non-human actors, main related discourses, spatial elements, temporal elements, political and economic elements, COVID-19 pandemic elements, emotional elements, key events, health status elements, sociocultural elements, and major issues.

Finally, relational maps were depicted by drawing lines and then narrated by analytically focusing on one of the key elements in the intended situation and specifying the

story of the meaningful relations between the element under focus and the other available elements in the situation. It should be noted that the focus was not solely on the elements, but on the nature of the relations between them.²⁸ The relational map number one has been drawn with a focus on protecting the elderly from the COVID-19 infection element, and relational map number two has been created with a focus on the emotional exhaustion element.

Research Credibility

In this study, several steps were taken to increase the trustworthiness (credibility, dependability, transferability, and confirmability) of the data collection, analysis, and presentation. First, credibility was ensured through the sampling strategy and theoretical saturation. Then, dependability was addressed through the discussion of the coding and categorization of data with other researchers who were not in the research team but were familiar with the field of the study (sociology of caregiving) and qualitative studies (especially GT and its extensions) to examine and confirm the data and to ensure the logic and consistency of the coding. In addition, every effort was made to thoroughly describe the context of this study and the demographic characteristics of the participants to enhance transferability. Finally, confirmability was ensured through the detailed description of the research process, memoing, and the integration of reflexivity as part of the data analysis process.³⁰⁻³²

Results

Participant Characteristics

A total of 10 sandwich caregivers in the age range of 40-58 (mean \pm standard deviation: 50.6 \pm 6.39) were recruited in this study, of whom 4, 4, and 2 cases were housewives, employed, and retired, respectively. The mean and standard deviation of the elderly's age was 82.5 (8.97) years (range: 70-96 years). The other sociodemographic characteristics and caregiving experiences of the informants are provided in Table 1.

Situational Maps

The analysis of the desired situation showed that this situation consisted of a wide range of various elements, and 95 elements were generally determined in this situation. These elements are observable in the messy map arranged in no particular fashion (Figure 1). These elements are classified under 15 categories and are depicted in the ordered map (Table 2).

The analysis of this situation revealed that the care situation the sandwich generation women are involved in is constituted by different, competing elements. On the one hand, there are cultural, traditional, and religious beliefs that govern Iranian society, including "caring for parents as a duty on the children of the family", "caring for parents as a religious duty in Islam", the patriarchal society culture, and order to honor the elderly in Iranian culture

Table 1. Participants' Socio-demographic Characteristics and Caregiving Experience (n=10)

Characteristics	
Elderly's gender, No. (%)	
Female	5 (50)
Male	5 (50)
Education, No. (%)	
Primary education	4 (40)
Secondary education	2 (20)
Tertiary	4 (40)
Relationship with the elderly, No. (%)	
Daughter	7 (70)
Daughter-in-law	3 (30)
Marital status, No. (%)	
Married	7 (70)
Separated/divorced/other	3 (30)
Employment status, No. (%)	
Housewife	4 (40)
Employed/self-employed	4 (40)
Retired	2 (20)
Elderly's health condition (one may have more than one health problem), No. (%)	
Disabled	6 (60)
Alzheimer's disease and dementia	7 (70)
Chronic illnesses	3 (30)
Age, [Mean (SD), Range]	[50.6 (6.39), 40-58]
Years of being a sandwich caregiver, [Mean (SD), Range]	[11.4 (10.49), 2-35]
Number of dependent children, [Mean (SD), Range]	[1.7 (0.48), 1-2]
Elderly's age, [Mean (SD), Range]	[82.5 (8.97), 70-96]
Dependent children's age, [Mean (SD), Range]	[21.64 (5.6), 14-31]

Note. SD: Standard deviation.

and Persian literature, and the like which are classified under the category of sociocultural elements (Table 2). On the other hand, this caring situation is surrounded by powerful discourses such as gender role discourse and the femininity of care duty considering women due to their gender to be inherent caregivers for family members such as children, their parents, and their spouses' parents. This goes along with the influence of discourse around the good and bad child based on the care or non-care for elderly parents categorized under the main related discourses in Table 2. It is important to note that even after the coincidence of this care situation with the global COVID-19 pandemic and despite its further difficulty and complexity, these situational elements have still maintained the presence of these women as the caregivers of two generations in these conditions and constituted a relatively stable care situation.

Relational Maps

In addition to diagramming the elements of the messy map having the most important relations to the protection of

the elderly from COVID-19 infection and to emotional exhaustion which are the focal points of the first and second relational maps, respectively (Figures 2 and 3), in the corresponding text, the relationships between these focal points and other elements have been described in more detail.

According to the first relational map (Figure 2), the caregivers, who are concerned about coronavirus contagion to the elderly, constructed the information and communications technology (ICT) tools as a gift to stay safe in the pandemic which could have enabled them to pursue different strategies such as remote caregiving, telehealth, online visiting, and online shopping in order to protect the elderly from the COVID-19 infection.

Some interviewees indicated that they conducted remote caregiving by eliminating their physical presence in some risky situations in order to protect the elderly from the COVID-19 infection. These risky situations are mentioned as the infection of the caregiver or one of the close family members with coronavirus and their high-risk workplaces: "Because my spouse is a doctor and highly likely to be a carrier, I have been taking care of my mother remotely for several months". Through daily video or phone calls, caregivers manage the elderly's daily needs and household chores as much as possible. Likewise, for those caregivers who had to conduct remote caregiving, having an informal assistant caregiver (e.g., their siblings, neighbors, and the like) was vital to make such care possible.

The informants reported that they have great worries about the elderly's referring to the physician's clinics for non-emergency medical problems since the beginning of the pandemic, probably leading to an increase in the risk of the COVID-19 infection. In this situation, caregivers benefit from telehealth which could reduce the caregivers' concerns of coronavirus contagion to their loved ones. For example, one caregiver stated that "When my father-in-law develops a non-acute health problem, I make a video call via WhatsApp to his doctor; the doctor writes a prescription and sends its image to me".

Online visiting was another applied strategy by informants who were concerned about the spread of the coronavirus to limit out-of-home social contact and to minimize unnecessary family visitations to protect the elderly from the COVID-19 infection. In this regard, ICT tools have created an interesting experience of family visitations so that video calls have been constructed as a fun manner for visiting by caregivers.

For the caregivers concerned about the contagion of coronavirus in crowded places such as shopping centers, online shopping is the strategy for staying safe in the shelter of their home and protecting the elderly from the COVID-19 infection.

Since the beginning of the COVID-19 pandemic, caregivers have needed to further know about COVID-19 and how to protect their family members from this pandemic, especially the elderly. Accordingly, googling and using social media, especially Instagram are reported

Table 2. Ordered Situational Map

Individual Human Elements/Actors	Collective Human Elements/Actors	Discursive Construction of Individual and Collective Human Actors
<ul style="list-style-type: none"> Female sandwich caregiver The elderly Caregiver's dependent child/children Caregiver's spouse Elderlies' other children (care givers' siblings) Caregiver's independent child/children Informal assistant caregiver Family physician 	<ul style="list-style-type: none"> The Ministry of Health Health policy makers Iran Health Insurance Organization Social Security Organization National Corona Headquarters The labor law of the IRI Media 	<ul style="list-style-type: none"> Being as a mom-teacher, a 24 hours' double caregiver, and a solo caregiver The elderly as the most vulnerable individuals to COVID-19, as the blessing of home Women as inherent caregivers for family members Men as inherently incapable of caregiving Children as constantly in need of support Iranian labor law, non-supportive of working female home caregivers The government as non-supportive of the elderly caregiving families Inefficient insurances Inefficient social security Gender-role based stereotypes Stereotypes related to the elderly
Non-human Elements/Actors	Discursive Construction of Non-human Actors	Main Related Discourses
<ul style="list-style-type: none"> ICT tools (e.g., Phone, TV, Smart Phone, Internet, What's App, Video call, Instagram, websites, and the like) Facemask COVID-19 pandemic A need for knowing about COVID-19 and how to be protected from it Lockdown guidelines Curfews The elderly's safe home in terms of stairs, door locks, flooring, and the like Information related to providing care for vulnerable people during the pandemic Health information related to the prevention of developing COVID-19 disease Job type and job environment of working female caregivers Online shopping Telehealth Telecommuting 	<ul style="list-style-type: none"> Pandemic as an added burden A large house as a care facilitator during the COVID pandemic ICT tools as a gift to stay safe in the pandemic Inefficient virtual education Children's distance learning as an excessive burden on the mother Video call as a fun manner of visiting 	<ul style="list-style-type: none"> Older adults as the group who is at greater risk of requiring hospitalization or dying Discourses around COVID-19 The caregiving role is 'feminine' Gender role discourses A good and grateful child takes care of his/her parents (Good child discourse) A bad child does not take care of his/her parents (Bad child discourse)
Spatial Elements	Temporal Elements	Political and Economic Elements
<ul style="list-style-type: none"> Living with the elderly in the same household Remote caregiving Students' distance learning Type of the shared accommodation of the caregiver and the elderly (house and apartment) The size of the shared accommodation of the caregiver and the elderly The distance from the caregiver's home to the elderly person's home 	<ul style="list-style-type: none"> The time devoted to caring for the care recipients during the day Caregiver's and care receivers' age Duration of being a sandwich caregiver 	<ul style="list-style-type: none"> The severe and pervasive economic crisis Lack of formal support services for informal caregivers Losing a job due to the pandemic Increasing the cost of living Out-of-pocket payment for medical expenses Lack of effective government policies for working female caregivers
COVID-19 Pandemic Elements	Emotional Elements	Key Events
<ul style="list-style-type: none"> Strict adherence to health protocols Limited out of home social contact Family visitation restrictions Elderly's trouble in following safety guidelines Decreased routine health check-up Voluntarily double quarantine 	<ul style="list-style-type: none"> Caregivers' constant worry about coronavirus contagion Caregiver's emotional exhaustion Fear of the death of the elderly Personal accomplishment Increased family distress Feeling more stress and anxiety 	<ul style="list-style-type: none"> The beginning of E-training after the COVID epidemic The start of broad telecommuting after the COVID epidemic The beginning of more electronic life after the COVID epidemic
Health Status Elements	Sociocultural Elements	Major Issues
<ul style="list-style-type: none"> Deterioration of the psychical health condition Alzheimer's disease and dementia The intensity of care needs of the elderly 	<ul style="list-style-type: none"> Caring for parents as a duty on the children of the family Caring for parents as a religious duty in Islam The patriarchal society culture Order to honor the elderly in Iranian culture Order to honor the elderly in Persian literature Social distancing norm 	<ul style="list-style-type: none"> Protecting the elderly from the COVID-19 infection Re-management of disrupted daily routines Increased conflict between the two generations Juggling competing demands of the two generations Voluntarily double quarantine Working in the high-risk workplaces

Note. ICT: Information and communications technology; IRI: International Registries, Inc. and its affiliates; COVID-19: Coronavirus disease 19.

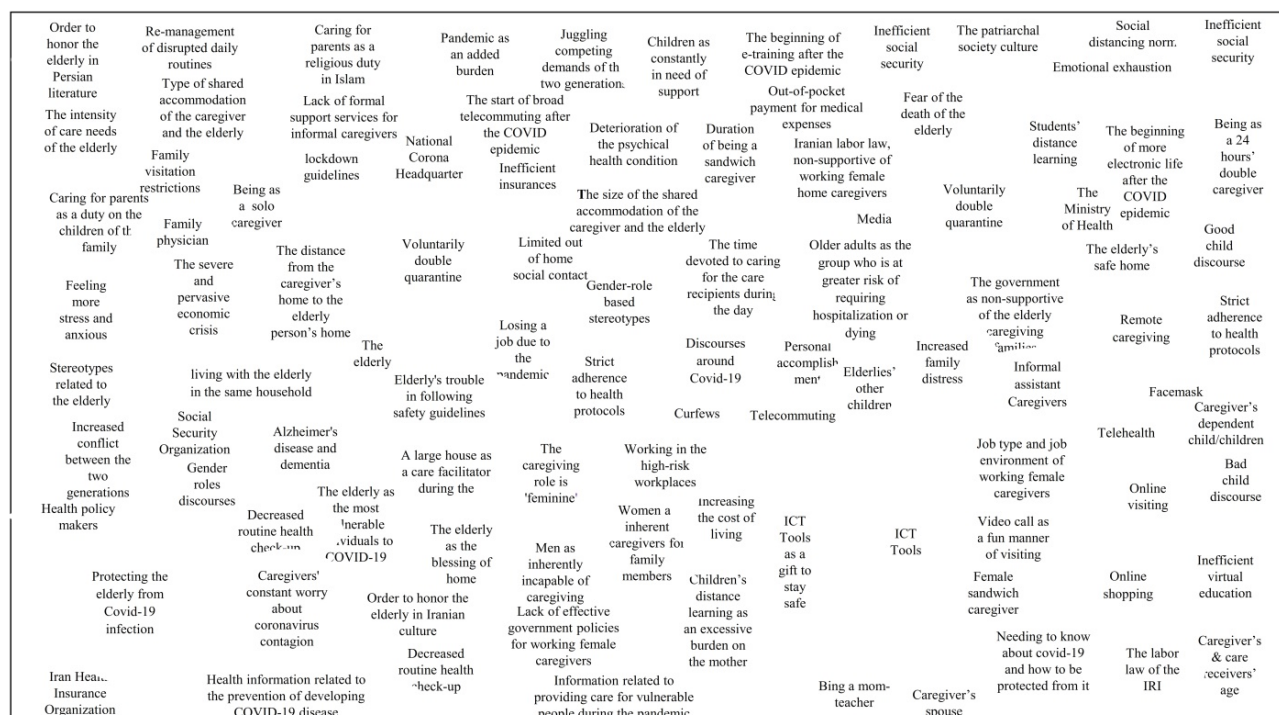


Figure 1. Messy Situational Map.

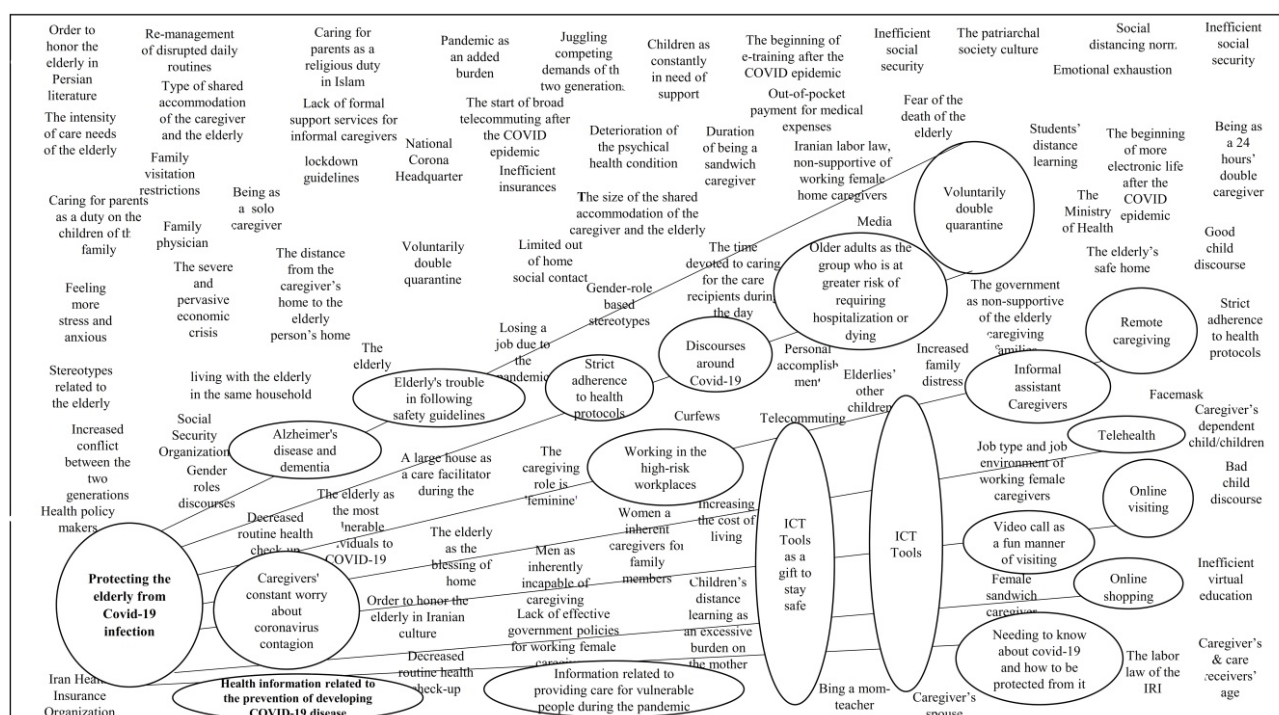


Figure 2. The First Relational Map.

as the main ways to obtain information related to providing care for vulnerable people during the pandemic and preventing the development of COVID-19 disease.

From the analysis of the interviews, it was clearly specified that discourses around COVID-19 and the discourse of “older adults as the group who is at greater risk of requiring hospitalization or dying” have shaped the performance of caregivers in such a way that they place themselves and care recipients in the voluntarily double quarantine and strictly adhere to health protocols aiming at protecting the

elderly from COVID-19 infection. Indeed, the choice of caregivers to align with these discourses has been due to the power of these discourses in the desired situation. In this regard, one caregiver stated that “As soon as the Corona appeared, my family and I lost all contact with the outside because we had an elderly person in our house; my father will succumb if he is infected with the coronavirus due to his old age and illness”. Many of interviewed individuals suggested that the elderly, especially those with Alzheimer’s disease and dementia have various kinds of trouble in following

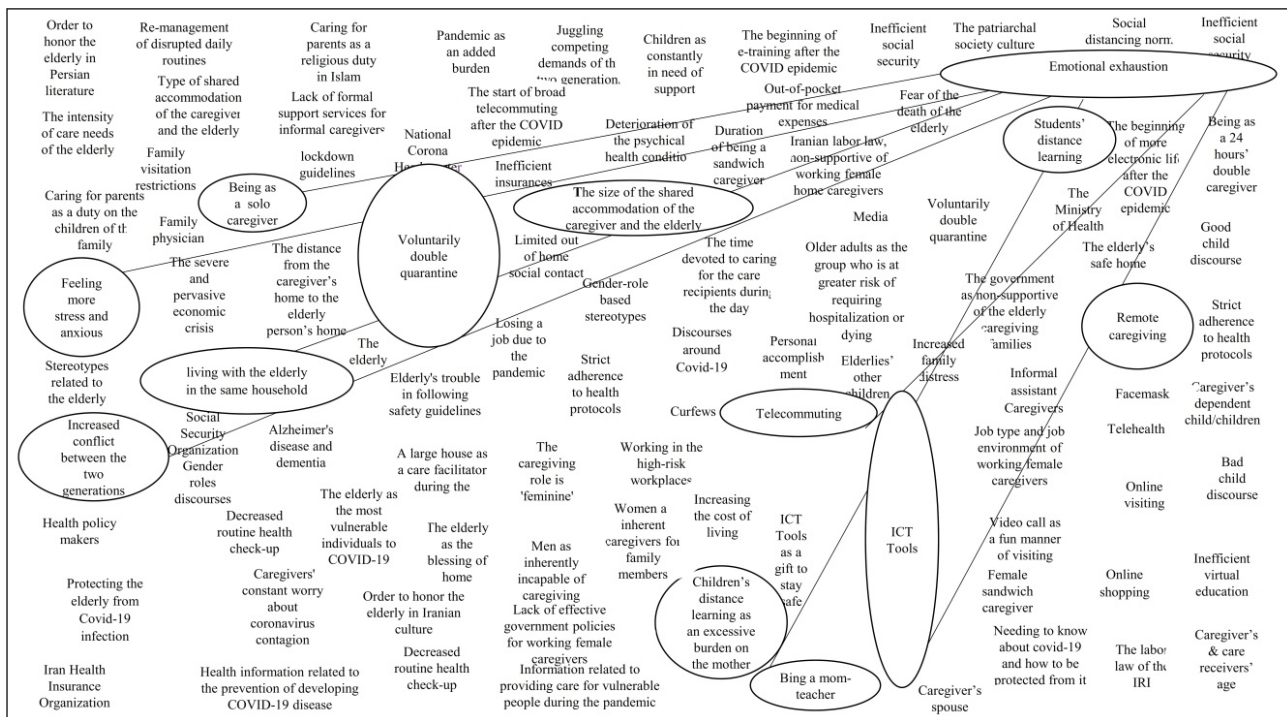


Figure 3. The Second Relational Map.

safety guidelines, and therefore, they had been put in double quarantine to save their life.

The relation of emotional exhaustion as the focal point of this map to other elements has been displayed in the second relational map (Figure 3). First, telecommuting, remote caregiving, and distance learning for students made possible by ICT tools have affected caregivers' emotional exhaustion. The analysis of the interviews clearly revealed that telecommuting through ICT tools has influenced the emotional exhaustion of working caregivers in two important respects. First, telecommuting for consecutive hours, along with caring for two generations, accompanies protests and behavior changes in individuals under care, namely, the elderly and children, in a variety of manners, increasing the caregiver distress: *"When I hold a mobile phone in my hand while simultaneously teaching online to my students, my mother says sadly: "Why do not you pay attention to me? You are stuck in your mobile phone so that you do not talk to me" or "My children do not notice my telecommuting and call me for every smallest thing"*. On the other hand, during the pandemic, many working caregivers have faced with a lack of clear demarcation between working and non-working hours and their rest time, and this has created a feeling of overload in them, along with the responsibilities of caring for two generations and constant stress. In addition, caregivers stated that being at work and away from the two generations under their care and concerns about them for hours would provide them with relative relaxation and recovery, but the necessity for telecommuting during the pandemic has deprived them of this limited opportunity and has increased their caring burden. One caregiver mentioned that, *"When I went to work, being away from my children and mother-in-law for a few hours, along with the presence of my co-workers, made*

me feel good, but now I am completely deprived of it".

Moreover, caregivers who had to care remotely by voice or video calls expressed that the lack of physical presence beside the elderly under care caused constant stress and preoccupation with the elderly status and their needs during the day, finally affecting their emotional exhaustion.

Those caregivers whose under-18-year-old and non-independent children receive distance education in the pandemic condition, consider themselves to be a mother-teacher, and the need to contribute to homeschooling activities has placed a new extra burden on them, and consequently, affecting their emotional exhaustion to the extent that children's distance learning has been constructed by caregivers as an excessive burden on the mother. In this regard, one caregiver expressed that, *"I cannot stand anymore; since the schools have been closed, I have become a child teacher and I am constantly involved in her online school activities; I am in charge of my mother-in-law's affairs too...."*.

Having no assistant caregiver and being single-handed during the pandemic because of the necessity for restricting family commuting and visiting, and being worried about formal caregivers entering the elderly's home have been reported by most caregivers, and they find themselves as a solo caregiver. In addition, the caregiver's single-handedness has been exacerbated by the voluntarily double quarantine and has influenced caregivers' emotional exhaustion by creating a feeling of overload.

All caregivers reported that they felt more stress and anxiety during the pandemic than before, leading to their emotional exhaustion as the pandemic continued for months. Additionally, the voluntarily double quarantine and more severe restrictions on social interactions have been declared as additional reasons for caregivers to feel

more stressed and anxious: *"Many times, I have a heartbeat. Since the pandemic has started and we have stayed at home, my stress has increased a lot more than before...."*

According to the reports by caregivers, living with the elderly in the same household during the pandemic has caused extensive difficulties for the caregiver, her husband, and her children, and putting pressure on the caregiver and her family members has influenced the caregiver's emotional exhaustion. Moreover, living together with the elderly has highly enhanced the risk of transmitting the virus from family members to the vulnerable elderly, and this has led to the voluntarily double quarantine of all family members aiming at protecting the health of the elderly: *"I would not let my son go out with his friends because I was afraid that he would bring Corona to the house"*. Further, in the condition of living with the elderly in the same house during the pandemic, the size of the shared accommodation of the caregiver and the elderly has played a highly important role in the caregivers' emotional exhaustion so that the small size of the house and the impossibility of allocating a separate room to the caregiver have made the situation extremely difficult and stressful for the caregiver and her children and has made them unable to continue caring.

After the start of the pandemic, living with the elderly in the same household and the voluntarily double quarantine have led young and old generations to live for consecutive days and weeks side by side and in the same house, and the disagreements between the two generations and the lack of leisure and social connections outside the home and the resulting stress have increased conflicts between the two generations. Accordingly, the need for caregiver's intervention to resolve ongoing conflicts between the two generations, as well as performing multiple caregiving responsibilities and the constant intense stress due to these conditions for the caregiver has influenced the caregivers' emotional exhaustion.

Discussion

The present study was designed to explore the female sandwich generation's experiences of multigenerational caregiving under the COVID-19 pandemic through adopting the SA approach. The findings of the stories narrated from the first relational map in accordance with recent studies indicated that strategies such as telehealth,^{5,11,33–35} online visiting,^{5,35,36} online shopping, and remote caregiving have been used by female caregivers for protecting the elderly from the COVID-19 infection. This finding highlights the important role of ICT tools as the most critical non-human elements in this caregiving situation that underlie these strategies. Although ICT-based services and strategies have played a vital role in disease prevention and pandemic control in the global crisis,³⁷ it seems that caregivers belonging to middle and upper socioeconomic classes who live in large cities with the appropriate Internet and technological infrastructures (e.g., the study setting) can easily employ these ICT tool-

based strategies. However, it should be noted that such facilities do not exist in all parts of the country and it is not possible to provide these services online and with the desired quality everywhere. In addition, all caregivers cannot afford the relevant costs, and not everyone has the required knowledge to benefit from them. Therefore, it seems that for the caregivers of vulnerable people, especially the elderly who belong to the lower class in the society and/or live in low-income and remote areas, receiving extensive support by the government to meet daily needs (e.g., providing essential food and health items, as well as receiving in-person clinical services with special safety measures for vulnerable people by the country's health system) is essential in this dramatic situation¹¹. Furthermore, the voluntarily double quarantine has been another important strategy for caregivers, which in line with the finding of previous research, implying that caregivers and care recipients had limited social interactions during the pandemic,⁵ and under the condition in which they live together, they isolate together to prevent the elderly from the risk of the COVID-19 infection.³⁵ However, some issued guidelines for the caregivers of the elderly during the pandemic have emphasized the implementation of social and physical distancing rather than social isolation³⁶ because stringently enacted restrictions such as strict isolation not only disrupt the lives of the elderly and their caregivers³⁵ but also lead to endangering their physical and mental health and increasing their risk of developing a variety of physical and mental illnesses.^{38,39} Thus, instead of strictly isolating, it is better to use strategies such as changing the shape of routine visits at home through replacing in-person visits with window and outdoor visits through observing personal distance and wearing a mask, having been experienced in the research.³⁵

The findings also represented that caregivers experienced emotional exhaustion as a result of remote caregiving, telecommuting, and students' distance learning as sudden and inevitable changes in daily life which have been possible by ICT tools. In agreement with these findings, recent studies^{5,40,41} have demonstrated that by transferring the activities from school and workplace to home by students and working caregiving parents, caregivers face a new problematic dilemma because there is no clear boundary for them between work and home life and the care demands of two generations, and performing multiple roles at the same time has led to more stress and overload for them. The feeling of mastery in the competently managing diverse roles by sandwich generation caregivers can turn extra responsibilities and affairs into a source of satisfaction for them.²² Thus, it seems that the emotional exhaustion of family caregivers may be somewhat reduced if they can balance work-home life and the care demands of two generations on a regular daily basis and, if possible, create space boundaries for work at home, and create a clear time boundary between activities and perform each of them at a specific time. Similarly, they can use the benefits of the changes in life, including better quality

of life, reduced commuting costs, more flexible work schedule, excellent psychological job control, and reduced work-family conflicts, and the like.^{42,43} On the other hand, in line with previous studies, being a solo caregiver,^{11,14,33} feeling more stress and anxiety,^{5,40} as well as living with the elderly in the same household and experiencing increasing conflicts between the two generations under care have affected caregivers' emotional exhaustion, and the role of voluntarily double quarantine in creating or intensifying these experiences is remarkable. In this regard, it seems that to reduce emotional exhaustion, caregivers can control their stress by managing multiple roles at home, reduce the double burden on them by dividing work between close and reliable family members, improve mental wellbeing, and manage the conflicts between the two generations by early assessment of the caregivers' and care recipients' psychological status through in-person and out-of-person psychological counseling, and thus become more empowered to continue living during the pandemic and under quarantine and social isolation.⁴⁴

Limitations

Finally, this study had some potential limitations. First, the minimum duration of being a double caregiver in this study was two years, and the experiences of those double caregivers, who have recently been placed in this caregiving situation following the COVID-19 pandemic conditions, may be different. Moreover, due to the nationwide lockdowns and the critical status of the coronavirus outbreak in the study setting, the coordination of the interview session was difficult and time-consuming, thus supplementary interviews were performed by phone calls. Eventually, the results of this study are not generalizable because the transferability of findings is not conducted under a qualitative approach.

Conclusion

In sum, the findings of this study suggested that the situation of multigenerational caregiving by the female sandwich generation caregivers occurred as a result of the power of the main gender discourses, and the discourse around being a good/bad child, as well as the existing cultural, traditional, and religious elements, and continues after interconnecting to the global COVID-19 pandemic. In addition, the experiences of these double caregivers can be connected to the discourses around the COVID-19 pandemic which are circulating in the situation under study in a way that female caregivers, under the influence of these powerful discourses for the protection of the elderly from the COVID-19 infection, have been led to adopt ICT tool-based strategies and voluntarily double quarantine of themselves and the care recipients. Furthermore, the findings revealed that emotional exhaustion is a rampant experience among female double caregivers influenced by telecommuting, students' distance learning, and remote caregiving that have been possible through ICT tools, along with other voluntarily double quarantine-related

experiences. Finally, this study has shed light on enhancing our understanding of the Iranian female sandwich generation's experiences of multigenerational caregiving under the COVID-19 pandemic through the power of the SA approach in unpacking the complexity and diversity of the elements that compose the intended situation in addition to making its elemental relations visible.

Authors' Contribution

RR: Conceptualization and method, data collection, data analysis and interpretation, article drafting, revision, and final approval of the manuscript and guarantor. MMM: Project administration, supervision, revision, and final approval of the manuscript and guarantor. MTI: Advisor of the project, method, revision, and final approval of the manuscript. DZ: Advisor of the project, revision, and final approval of the manuscript.

Ethical Approval

The present study was approved by the Ethics Committee of Shiraz University of Medical Sciences (under the ethical code of IR.SUMS.REC.1399.1298). Additionally, the objectives were fully explained to the participant, and the participant was requested to sign an informed consent form.

Conflict of Interest Disclosures

None declared.

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References

1. World Health Organization (WHO). Coronavirus Disease 2019 (COVID-19): Situation Report, 51. WHO; 2020. Available from: <https://apps.who.int/iris/handle/10665/331475>.
2. Salimi R, Gomar R, Heshmati B. The COVID-19 outbreak in Iran. *J Glob Health*. 2020;10(1):010365. doi: 10.7189/jogh.10.010365.
3. Dowd JB, Andriano L, Brazel DM, Rotondi V, Block P, Ding X, et al. Demographic science aids in understanding the spread and fatality rates of COVID-19. *Proc Natl Acad Sci U S A*. 2020;117(18):9696-8. doi: 10.1073/pnas.2004911117.
4. Cohen SA, Kunicki ZJ, Drohan MM, Greaney ML. Exploring changes in caregiver burden and caregiving intensity due to COVID-19. *Gerontol Geriatr Med*. 2021;7:2333721421999279. doi: 10.1177/2333721421999279.
5. Irani E, Niyomyart A, Hickman RL Jr. Family caregivers' experiences and changes in caregiving tasks during the COVID-19 pandemic. *Clin Nurs Res*. 2021;30(7):1088-97. doi: 10.1177/10547738211014211.
6. Kent EE, Ornstein KA, Dionne-Odom JN. The family caregiving crisis meets an actual pandemic. *J Pain Symptom Manage*. 2020;60(1):e66-e9. doi: 10.1016/j.jpainsymman.2020.04.006.
7. Budnick A, Hering C, Eggert S, Teubner C, Suhr R, Kuhlmeier A, et al. Informal caregivers during the COVID-19 pandemic perceive additional burden: findings from an ad-hoc survey in Germany. *BMC Health Serv Res*. 2021;21(1):353. doi: 10.1186/s12913-021-06359-7.
8. Franchini L, Varani S, Ostan R, Bocchi I, Pannuti R, Biasco G, et al. Home palliative care professionals perception of challenges during the COVID-19 outbreak: a qualitative study. *Palliat Med*. 2021;35(5):862-74. doi: 10.1177/02692163211008732.
9. Brown EE, Kumar S, Rajji TK, Pollock BG, Mulsant BH.

- Anticipating and mitigating the impact of the COVID-19 pandemic on Alzheimer's disease and related dementias. *Am J Geriatr Psychiatry*. 2020;28(7):712-21. doi: 10.1016/j.jagp.2020.04.010.
10. Sheth K, Lorig K, Stewart A, Parodi JF, Ritter PL. Effects of COVID-19 on informal caregivers and the development and validation of a scale in English and Spanish to measure the impact of COVID-19 on caregivers. *J Appl Gerontol*. 2021;40(3):235-43. doi: 10.1177/0733464820971511.
 11. Vaitheswaran S, Lakshminarayanan M, Ramanujam V, Sargunan S, Venkatesan S. Experiences and needs of caregivers of persons with dementia in India during the COVID-19 pandemic-a qualitative study. *Am J Geriatr Psychiatry*. 2020;28(11):1185-94. doi: 10.1016/j.jagp.2020.06.026.
 12. Ercoli LM, Gammada EZ, Niles P, Wyte Y. Coping with dementia caregiving stress and burden during COVID-19. *Gerontol Geriatr Res*. 2021;7(1):1047.
 13. Lightfoot E, Moore RP. Caregiving in times of uncertainty: helping adult children of aging parents find support during the COVID-19 outbreak. *J Gerontol Soc Work*. 2020;63(6-7):542-52. doi: 10.1080/01634372.2020.1769793.
 14. Archer J, Reiboldt W, Claver M, Fay J. Caregiving in quarantine: evaluating the impact of the COVID-19 pandemic on adult child informal caregivers of a parent. *Gerontol Geriatr Med*. 2021;7:2333721421990150. doi: 10.1177/2333721421990150.
 15. Power K. The COVID-19 pandemic has increased the care burden of women and families. *Sustain Sci Pract Policy*. 2020;16(1):67-73. doi: 10.1080/15487733.2020.1776561.
 16. Farhadi A, Foroughan M, Mohammadi F, Rassouli M, Sadegh Moghadam L, Nazari S, et al. Caregiving appraisal in family caregivers of older adults. *Salmand: Iranian Journal of Ageing*. 2016;11(1):8-19. doi: 10.21859/sija-110108. [Persian].
 17. Pouladi S, Anoosheh M, Kazemnejad A, Zareian A. Factors limiting families in elderly care: a thematic analysis. *J Qual Res Health Sci*. 2013;2(2):146-57. [Persian].
 18. Mohammadi F, Dabaghi F, Yadavar Nikravesheh M. Facilitating and hindering factors in family care giving process on Iranian frail elderly: female caregivers experiences. *Salmand: Iranian Journal of Ageing*. 2008;2(4):445-53. [Persian].
 19. Hammer LB, Neal MB. Working sandwiched-generation caregivers: prevalence, characteristics, and outcomes. *Psychol Manag J*. 2008;11(1):93-112. doi: 10.1080/10887150801967324.
 20. Riley LD, Bowen CP. The sandwich generation: challenges and coping strategies of multigenerational families. *Fam J*. 2005;13(1):52-8. doi: 10.1177/1066480704270099.
 21. DeRigne L, Ferrante S. The sandwich generation: a review of the literature. *Fla Public Health Rev*. 2012;9(1):12.
 22. Remennick LI. Women of the sandwich generation and multiple roles: the case of Russian immigrants of the 1990s in Israel. *Sex Roles*. 1999;40(5):347-78. doi: 10.1023/a:1018815425195.
 23. Grundy E, Henretta JC. Between elderly parents and adult children: a new look at the intergenerational care provided by the sandwich generation. *Ageing Soc*. 2006;26(5):707-22. doi: 10.1017/s0144686x06004934.
 24. Vlachantoni A, Evandrou M, Falkingham J, Gomez-Leon M. Caught in the middle in mid-life: provision of care across multiple generations. *Ageing Soc*. 2020;40(7):1490-510. doi: 10.1017/s0144686x19000047.
 25. Miller DA. The sandwich generation: adult children of the aging. *Soc Work*. 1981;26(5):419-23. doi: 10.1093/sw/26.5.419.
 26. Steiner AM, Fletcher PC. Sandwich generation caregiving: a complex and dynamic role. *J Adult Dev*. 2017;24(2):133-43. doi: 10.1007/s10804-016-9252-7.
 27. Hämäläinen H, Tanskanen AO. Sandwich generation: generational transfers towards adult children and elderly parents. *J Fam Stud*. 2021;27(3):336-55. doi: 10.1080/13229400.2019.1586562.
 28. Clarke AE, Friese C, Washburn RS. *Situational Analysis: Grounded Theory After the Interpretive Turn*. SAGE Publications; 2017. Available from: <https://books.google.com/books?id=d4ktDwAAQBAJ>.
 29. Clarke AE. *Situational Analysis: Grounded Theory After the Postmodern Turn*. SAGE Publications; 2005. Available from: <https://books.google.com/books?id=juxbjObVVbWc>.
 30. Lincoln YS, Guba EG. *Naturalistic Inquiry*. SAGE Publications; 1985.
 31. Coe D, Fulton J. Social arenas of caring practice. *J Ethnogr Qual Res*. 2016;11(1):32-54.
 32. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*. 2004;24(2):105-12. doi: 10.1016/j.nedt.2003.10.001.
 33. Savla J, Roberto KA, Blieszner R, McCann BR, Hoyt E, Knight AL. Dementia caregiving during the "stay-at-home" phase of COVID-19 pandemic. *J Gerontol B Psychol Sci Soc Sci*. 2021;76(4):e241-e5. doi: 10.1093/geronb/gbaa129.
 34. Cuffaro L, Di Lorenzo F, Bonavita S, Tedeschi G, Leocani L, Lavorgna L. Dementia care and COVID-19 pandemic: a necessary digital revolution. *Neurol Sci*. 2020;41(8):1977-9. doi: 10.1007/s10072-020-04512-4.
 35. Lightfoot E, Yun H, Moore R, Otis J, Suleiman K, Turck K, et al. Changes to family caregiving of older adults and adults with disabilities during COVID-19. *Gerontol Geriatr Med*. 2021;7:23337214211002404. doi: 10.1177/23337214211002404.
 36. Hackett PM, Hayre CM. Coronavirus and COVID-19: qualitative healthcare research during and after the pandemic. In: *Handbook of Ethnography in Healthcare Research*. Routledge; 2020. p. 503-512.
 37. Chelongar K, Ajami S. Prevent COVID-19 by telemedicine for the elderly at home care services. *Int J Prev Med*. 2020;11:87. doi: 10.4103/ijpvm.IJPVM_149_20.
 38. Gerst-Emerson K, Jayawardhana J. Loneliness as a public health issue: the impact of loneliness on health care utilization among older adults. *Am J Public Health*. 2015;105(5):1013-9. doi: 10.2105/ajph.2014.302427.
 39. Santini ZI, Jose PE, York Cornwell E, Koyanagi A, Nielsen L, Hinrichsen C, et al. Social disconnectedness, perceived isolation, and symptoms of depression and anxiety among older Americans (NSHAP): a longitudinal mediation analysis. *Lancet Public Health*. 2020;5(1):e62-e70. doi: 10.1016/s2468-2667(19)30230-0.
 40. Putro SS, Riyanto S. How Asian sandwich generation managing stress in telecommuting during COVID-19 pandemic. *Int J Sci Res Eng Dev*. 2020;3(3):485-92.
 41. Putro SS, Riyanto S. Evaluating stress impact of working from home during COVID-19 pandemic self-quarantine period in Indonesia. 2020;(April):1-11. Available from: https://www.academia.edu/42785798/Evaluating_Stress_Impact_of_Working_from_Home_during_Covid_19_Pandemic_Self-quarantine_Period_in_Indonesia.
 42. Khalifa M, Davison R. Exploring the telecommuting paradox. *Commun ACM*. 2000;43(3):29-31. doi: 10.1145/330534.330554.
 43. Kossek EE, Lautsch BA, Eaton SC. Telecommuting, control, and boundary management: correlates of policy use and practice, job control, and work-family effectiveness. *J Vocat Behav*. 2006;68(2):347-67. doi: 10.1016/j.jvb.2005.07.002.
 44. Käll A, Jägholm S, Hesser H, Andersson F, Mathaldi A, Norkvist BT, et al. Internet-based cognitive behavior therapy for loneliness: a pilot randomized controlled trial. *Behav Ther*. 2020;51(1):54-68. doi: 10.1016/j.beth.2019.05.001.